

What is claimed is:

- ✓ 1. A pad for carrying liquid, comprising:
- a piece of non-woven material wherein the piece of material is capable of absorbing an amount of the liquid at least about 1.5 times the weight of the piece of material;
 - a first printed ink on a first surface of the material;
 - a second printed ink on either the first or a second surface of the material;
 - wherein the first ink is substantially in register with the second ink.
- Sub A 2. The pad of claim 1, wherein the second printed ink is printed on the first surface and further comprising a printed ink on a second surface of the material and wherein the inks printed on the first and second surfaces are substantially in register.
3. The pad of claim 2, wherein the printed inks on the first and second surfaces of the material form first and second designs and the first and second designs are substantially the same.
- Sub B 4. The pad of claim 1, wherein the material has a thickness of about 30 mils to 50 mils.
5. The pad of claim 1, wherein the material is a non-woven polyester.
6. The pad of claim 5, wherein the material has a density of at least about 2.5 oz. per square yard.
7. The pad of claim 5, wherein the material has a density of about 4 oz. per square yard.
8. The pad of claim 1, wherein the material is a polyester cellulose blend.
9. The pad of claim 8, wherein the material is about 45% polyester and about 55% cellulose.
- 10. The pad of claim 1, wherein the designs are printed with ink that is approved by the United States Food and Drug Administration.
- 11. The pad of claim 10 wherein the designs are printed with ink that is approved under California Proposition 65.

→ 12. The pad of claim 11 wherein the designs are printed with ink that is compliant with CONEG.

13. The pad of claim 1, wherein the designs are printed with ink that is substantially non-leaching.

SubA3) 14. The pad of claim 13 wherein the ink is a non-carbon gravure ink.

15. The pad of claim 14 wherein the ink has a viscosity of about 17 to 30 seconds in a no. 2 Zahn.

SubA4) 16. The pad of claim 1, wherein said piece of material is substantially circular.

17. The pad of claim 3:

wherein the design on the first surface is substantially the same as the design on the second surface;

the material has a thickness of about 30 mils to 50 mils;

→ the designs are printed with ink that is approved by the United States Food and Drug Administration;

→ the designs are printed with ink that is approved under California Proposition 65;

→ the designs are printed with ink that is compliant with CONEG;

the designs are printed with ink that is substantially non-leaching;

the ink is a non-carbon gravure ink;

the ink has a viscosity of about 17 to 30 seconds in a no. 2 Zahn;

said piece of material is substantially circular.

18. The pad of claim 17, wherein material pad is a non-woven polyester having a density of about 4 oz. per square yard.

19. The pad of claim 17, wherein the material is about 45% polyester and about 55% cellulose.

✓ 20. A method for making a printed pad for carrying a liquid comprising the steps of:

feeding a web of non-woven material into a rotogravure press, wherein the material is capable of absorbing at least about 1.5 times its own weight of the liquid;

printing a first ink with the press on a first surface of the web;

printing a second ink with the press substantially in register with the first ink on the first surface or a second surface of the web.

21. The method of claim 20 wherein the second ink is printed on the first surface of the web and further comprising the step of printing an ink on the second surface of the web.

22. The method of claim 21 wherein the first and second designs are the same.

23. The method of claim 21, wherein the material is a non-woven polyester.

24. The method of claim 21, wherein the material is a polyester cellulose blend.

25. The method of claim 21, wherein the press comprises means for maintaining tension on the web and the means for maintaining tension on the web are set at the lowest tension sufficient to prevent the web from binding in the press.

26. The method of claim 24, wherein the web is fed into the press at about 105 to 115 feet per minute.

27. The method of claim 21, wherein the press comprises a first control station and the tension on the web at the first control station is about 15 lbs.

28. The method of claim 27, wherein the press comprises a second control station and the tension on the web at the second control station is about 12-14 lbs.

29. The method of claim 28, wherein the press comprises a third control station and the tension on the web at the third control station is about 12-14 lbs.

30. The method of claim 29, wherein the press comprises a fourth control station and the tension on the web at the fourth control station is about 12-14 lbs.
31. The method of claim 21, wherein the press comprises a dryer and the dryer is set at about 50° C.
32. The method of claim 21, wherein the press comprises a chill roller and the tension on the web at the chill roller is about 5-6 lbs.
33. The method of claim 21, wherein the press comprises a plurality of print cylinders in series and each print cylinder is about 0.0002 inches larger in diameter than the preceding print cylinder.
34. The method of claim 21, wherein the press comprises a print cylinder and the cylinder comprises a plurality of cells and each cell is about 195 microns wide, about 65 to 70 microns deep and carries an ink volume of about 1.76 cbm.
35. A system for cutting printed designs from a web of elastic material to form printed pads wherein the printed designs are printed on the web at a repeat length comprising:
- (a) a braked unwind station having a variable braking tension;
 - (b) an infeed station having an adjustable speed;
 - (c) a diecutter comprising a diecutting cylinder and a cylinder correction gearbox capable of correcting the position of the diecutting cylinder in a positive or negative rotational direction, wherein the circumference of the diecutting cylinder is greater than the repeat length.
 - (d) a first sensor for sensing the position of the printed designs on the web;
 - (e) a second sensor for sensing the position of the diecutting cylinder;

(f) a processor electronically coupled to the first sensor, the second sensor, the infeed station and the diecutter for controlling the infeed station and the diecutter in response to signals received from the sensors,

wherein the processor sends a correction signal to the diecutting cylinder in response to signals from the sensors, the processor comprises a first counter for counting the number of consecutive corrections of the diecutting cylinder in the same direction and sending a correction signal to the infeed station when a predetermined number of consecutive corrections of the diecutting cylinder is reached.

36. The system of claim 35, wherein the processor sends a correction signal to the infeed station after 4 consecutive corrections of the diecutting cylinder.

37. The system of claim 35, wherein the printed designs on the web have a repeat length and the diecutting cylinder has a repeat length about 0.5% greater than the repeat length than the repeat length of the designs on the web.

38. The system of claim 35 further comprising means for separating the printed pads from the web material after the web has passed through the die cutter.

39. The system of claim 35 further comprising means for neutralizing the static charge of the web.

40. The system of claim 35 further comprising:

(a) a conveyor, having a variable speed motor controlled by the processor, for receiving the printed pad after the printed pad is separated from the web;

(b) a sensor electronically coupled to the processor for sending a signal to the processor each time a printed pads is received on the conveyor;

wherein the processor comprises a second counter for counting the number of pads received on the conveyor and when a predetermined number of pads is received on the conveyor the processor sends a signal to the conveyor motor to temporarily increase the speed of the conveyor.

41. The system of claim 40 further comprising a gate having a first position immediately above the conveyor in which the gate impedes the progress of the printed pads on the conveyor and a second position above the first position in which the gate does not impede the progress of the printed pads on the conveyor, wherein the gate is electronically coupled to the processor and the processor sends a signal to raise the gate at the same time the processor sends a signal to increase the speed of the conveyor.

42. The system of claim 34, wherein the processor sends a signal to an operator to adjust the braking tension on the unwind station when the corrections to the infeed station exceed a predetermined threshold.

43. A pad comprising:

a piece of non-woven material wherein the material is a non-woven polyester or a polyester-cellulose blend; and

a first printed ink on a first surface of the material wherein said piece of non-woven material is formed from a web of said non-woven material which piece is formed with substantially the same dimensions and shape as other pieces of non-woven material formed from the same web.

44. The pad of claim 43 further comprising a second printed ink on either the first or a second surface of the material; wherein the first ink is substantially in register with the second ink.

45. The pad of claim 43, wherein the second printed ink is printed on the first surface and further comprising a printed ink on a second surface of the material and wherein the inks printed on the first and second surfaces are substantially in register.
46. The pad of claim 45, wherein the printed inks on the first and second surfaces of the material form first and second designs and the first and second designs are substantially the same.
47. The pad of claim 43, wherein the material has a thickness of about 30 mils to 50 mils.
48. The pad of claim 43, wherein the material has a density of at least about 2.5 oz. per square yard.
49. The pad of claim 43, wherein the material has a density of about 4 oz. per square yard.
50. The pad of claim 43, wherein the material is about 45% polyester and about 55% cellulose.
51. The pad of claim 43, wherein the designs are printed with ink that is approved by the United States Food and Drug Administration.
52. The pad of claim 51 wherein the designs are printed with ink that is approved under California Proposition 65.
53. The pad of claim 52 wherein the designs are printed with ink that is compliant with CONEG.
54. The pad of claim 43, wherein the designs are printed with ink that is substantially non-leaching.
55. The pad of claim 54 wherein the ink is a non-carbon gravure ink.
56. The pad of claim 55 wherein the ink has a viscosity of about 17 to 30 seconds in a no. 2 Zahn.
57. The pad of claim 43, wherein said shape is substantially circular.

Sub 58. A pad comprising:

a piece of non-woven material wherein the material comprises either a polyester or a polyester cellulose blend; and

Sub AS)
cont.

~~a first ink printed on a first surface of the piece of non-woven material, wherein the ink is substantially non-leaching.~~

59. A pad comprising:

~~a piece of non-woven material wherein the material comprises either a polyester or a polyester cellulose blend; and~~

~~a first ink printed on a first surface of the piece of non-woven material, wherein the ink forms a design and wherein the ink does not substantially diffuse in the piece of non-woven material to cause significant distortion of the design.~~

ADD
ADD
668020"EE264E2